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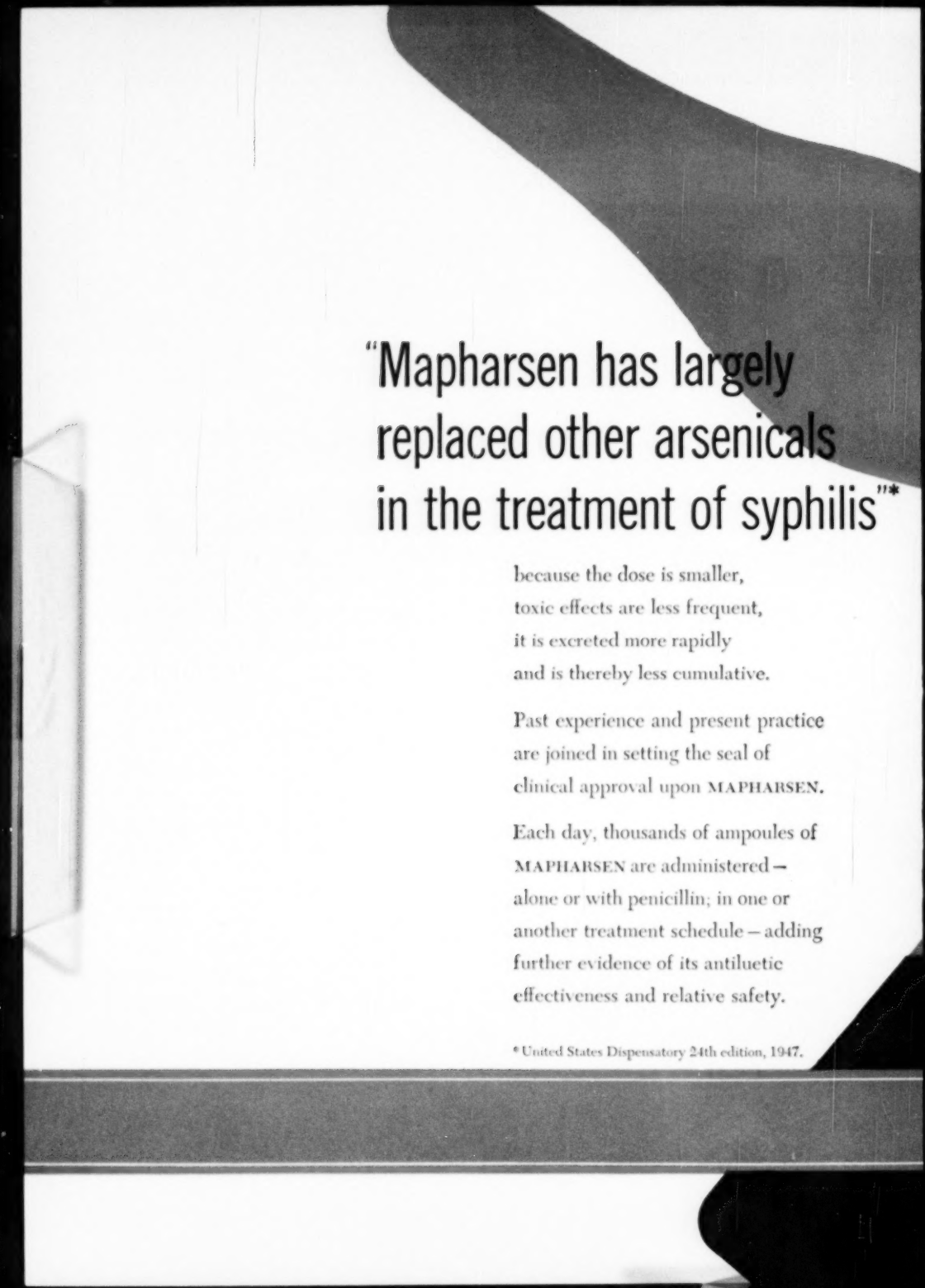
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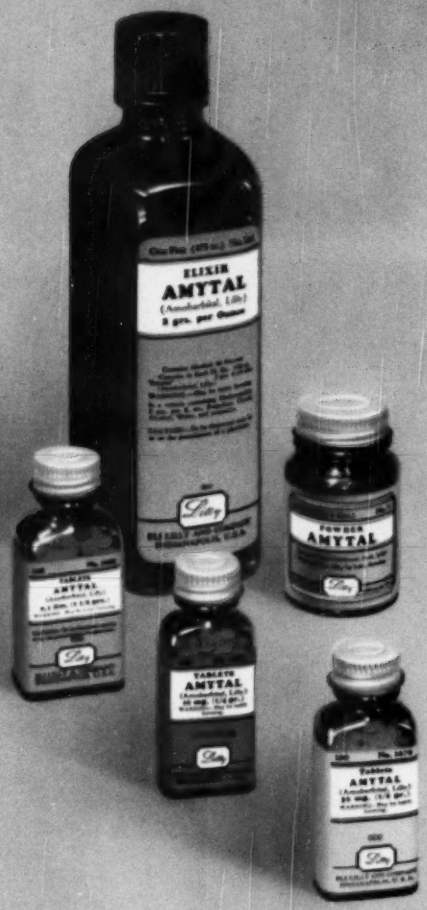

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THE EMPLOYMENT OF MASSIVE BLOOD TRANSFUSIONS* In the Performance of Extensive Surgical Procedures.

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With particular reference to its use in (A) complete and incomplete pelvic and perineal eviscerations, with uretero-colic implantation; (B) portacaval shunt; and (C) total thoracic esophagectomy with high intra-thoracic cervical esophago-gastrostomy.

In the past decade a great number of advances have occurred in the field of surgery. Many new operative procedures have been devised and are now being employed with a fair degree of success.

A number of factors have contributed to this extension in the surgical field. It is not the purpose of this report to elaborate on each of these factors, since these are now well known by all recognized surgeons. Whipple[10] has recently given a brief review of the factors which have contributed to the safety and success of present-day radical surgery. Numerous other recent publications have stressed the advances in anesthesiology, chemotherapy, preoperative, operative, and postoperative fluid and electrolyte therapy, plasma and blood transfusions, etc. Suffice it to say, that without these important contributions, it would be impossible to carry out many of the present-day surgical procedures.

The present communication is limited to a consideration of the importance of the use of large quantities of blood during operation as a means of extending the surgical sphere. By the use of large amounts of blood it has been possible to perform operative procedures which have formerly never been employed, and which would otherwise be impossible of accomplishment. In stressing this factor it is well recognized that massive transfusions alone are not responsible for the successful performance of these procedures, since the other factors listed above are also in operation. Yet it can be stated unreservedly that, in spite of these advances, the successful accomplishment of the procedures listed in this report would have been impossible if large quantities of blood had not been administered during the operation.

The individual case reports herein are of procedures of relatively recent origin, which have been performed with comparative rarity throughout the world. All the cases in this report have been operated upon by the author, and all have been personally followed to the present date.

CASE REPORTS

A. Complete or incomplete pelvic and perineal evisceration, with or without uretero-colic implantation.

Case 1. D. C. Hospital No. 83153. This 54 year old, white female was admitted to the Memorial Hospital on May 15, 1949, with recurrence from carcinoma of the cervix. In 1942 a total abdominal hysterectomy had been performed in another institution for carcinoma of the cervix. In August 1945 she was seen in the Carpenter Memorial Clinic by Dr. John F. Hynes, with recurrent carcinoma, involving the anterior vaginal wall. She was treated by irradiation through a per-vaginal cone, with subsequent complete clinical regression of the lesion. On a followup examination on May 5, 1949 recurrent tumor was noted in the anterior vaginal wall, vaginal apex, both parametria, peri-vesical and peri-rectal tissues. Biopsy report showed squamous cell carcinoma, grade III. The entire mass of recurrent tumor was movable, (not fixed to the pelvic walls). Complete examination showed no evidence of metastases other than that noted in the pelvis. X-ray examination of the chest was negative for metastases. The initial blood count showed a slight anemia,

*From the Department of Surgery and the Carpenter Memorial Clinic, Memorial Hospital.

which was corrected by transfusion of 1000 c.c. of blood. The urinalysis and blood chemistry determinations were within normal limits. The BUN was 15 mg.%. I.V. pyelograms showed no abnormalities. Since the disease was recurrent and extensive, in spite of previous adequate irradiation, no therapy was available to this patient, and she was thus classified as a hopeless case.

However, since the disease was confined to the pelvis, it was decided to extirpate all the pelvic and perineal viscera, and implant the ureters into the colon proximal to the colostomy. After a detailed explanation of the problem to the patient, she gladly accepted the proposed procedure. On May 23, 1949 operation, consisting of en-bloc complete pelvic and perineal evisceration (resection of the common iliac, external iliac, hypogastric and obturator lymph nodes; internal iliac vessels and branches; bladder, urethra, lower ureters; parametria; recurrent tumor; pelvic sigmoid, rectum, anus; vagina, vulva and perineum), with implantation of both ureters into the colon, proximal to the colostomy, was performed. Careful examination of the entire abdomen showed no evidence of disease, except for that which was resected. It was felt that all disease had been completely removed, and thus the patient should have a good chance of being permanently cured of an otherwise hopeless disease.

She tolerated the 10½ hour operative procedure very well, the blood pressure at the conclusion of the operation being 130/80, with a pulse rate of 112 per minute. During the operation, she received 6000 c.c. of blood, 1800 c.c. of plasma, and 3500 c.c. of 5% glucose in saline intravenously. The immediate and subsequent postoperative course was quite good.

Urinary flow from the implants began immediately after operation, and subsequently the urinary output varied between 1000-2600 c.c. daily. She was ambulatory on her sixteenth postoperative day, and her abdominal wound healed per primam. On 6-15-49 the BUN was 6 mg.%.

At the time of discharge from the hospital on 7-4-49, the large pelvic defect was only about 40% of its original size. She has been followed closely. She has resumed all of her previous duties as a housewife, and editor of a local newspaper. Her wet colostomy is well controlled by means of a modified "Rutzen Bag," which usually requires reapplication every 5-6 days. The last follow-up examination, April 4, 1950, showed no evidence of recurrent disease. The pelvic defect now consists of a small sinus about .5 cm. in diameter and 2 cm. in depth. She is entirely asymptomatic. Her mental outlook is excellent. The BUN was 17 mg.%.

Case 2. P. R. Hospital No. 83680. This 49 year old, white female was admitted to the Memorial Hospital on 11-17-49, with residual carcinoma of the cervix, with extension to the anterior vaginal wall, left parametria, peri-urethral, peri-vesical, and peri-rectal tissues. The entire massive tumor was movable. She had previously received an adequate course of external irradiation and raidum therapy, shortly after first being seen by Dr. John F. Hynes. At the time of the present admission she was in good general condition. There was no evidence of metastases in the groins or elsewhere. X-ray examination of the chest showed a shadow in the left upper lobe, which probably represented an old healed tuberculous process. The I.V. pyelogram showed an absence of the renal shadow on the left side, probably due to long standing ureteral obstruction from tumor in the left parametrium. The initial blood count, urinalysis and blood chemistry determinations were within normal limits.

On 11-30-49 operation was performed, consisting of en-bloc complete pelvic and perineal evisceration, (resection of common iliac, external iliac, hypogastric and obturator lymph nodes; internal iliac vessels and branches; bladder, urethra, lower ureters; uterus, adnexae, parametria; recurrent tumor; pelvic sigmoid, rectum, anus; vagina, vulva and perineum), with ligation of the left ureter, (this kidney showed no function during the entire course of the operation and had previously showed non-function by pyelograms; this non-functioning was found to be due to long standing left utereral obstruction by tumer in the left parametrium, which completely occluded the ureter), and implantation of the right ureter into the sigmoid colon proximal to the colostomy.

Exploration of the abdomen at the time of operation showed no evidence of disease other than that completely resected from the pelvis, except for the possibility of tumor in a few nodes around the celiac axis, since these nodes were slightly enlarged. Therefore, the ultimate prognosis in this case remains somewhat guarded.

The patient tolerated the 9½ hour procedure well. She received 8100 c.c. of blood, 2000 c.c. of 5% glucose in water, and 1000 c.c. of 5% glucose in saline intravenously during the operation. Urinary flow from the implant began immediately after operation, and continued well throughout the remainder of her hospital course. Since this patient was rather uncooperative, it took a great deal of persuasion to get her to the stage of ambulation, thus delaying her discharge from the hospital for over a month. She was finally discharged on 2-12-50 in an ambulatory state. The BUN, shortly before discharge, was 10 mg.%.

At a recent follow-up examination in March, 1950, she was progressing satisfactorily. The pelvic defect is now about 50% of its original size. There was no evidence of recurrent disease. Her wet colostomy is well controlled by means of a modified "Rutzen Bag."

Case 3. L. M. Hospital No. 85567. This 56 year old, married, white female was admitted to the Memorial Hospital on 12-12-49 with metastatic carcinoma to the vaginal apex, left parametrium, and peri-vesical tissues. The entire mass of tumor was movable. On 12-8-48 total abdominal hysterectomy and bilateral salpingo-oophorectomy had been performed in another institution for adenocarcinoma of the uterine corpus. At the time of the present admission, x-ray of the chest was negative for metastases. The blood count, urinalysis, and blood chemistry determinations were within normal limits. The I.V. pyelogram showed no abnormalities. On 12-21-49 an en-bloc incomplete pelvic and perineal evisceration, (resection of the common iliac, external iliac, hypogastric and obturator lymph nodes; internal iliac vessels and branches; bladder and urethra; recurrent tumor; parametria; vagina and vulva), with implantation of both ureters into the sigmoid colon by a modified Coffey I technique, was performed. The rectum was preserved. Exploration of the entire abdomen at the time of operation showed no evidence of disease other than that which was completely resected; thus this patient should have a chance of being permanently cured of her disease.

She tolerated the 10 hour procedure very well, although unexplained continuous oozing from the operative area in the pelvis, in spite of meticulous ligation of vessels, necessitated the use of huge quantities of blood. At the beginning of the operation the B.P. was 125/80, with a pulse rate of 84 per minute; while at the conclusion of the operation B.P. was 120/90, with a pulse rate of 86 per minute.

She received 11,000 c.c. of blood, 2250 c.c. of plasma, and 6000 c.c. of 5% glucose in saline during the operation. A urinary output of 1000 c.c. from the transplants occurred in the first 3 hours postoperatively, and thereafter the urinary output was excellent throughout the hospital course. Her abdominal wound healed her primam. She was ambulatory on the seventeenth postoperative day. The BUN on 1-25-50 was 8 mg.%. She was discharged from the hospital on 2-1-50. On follow-up examination in March, 1950 the patient was asymptomatic and performing light household duties. She voids every 3-4 hours rectally and has excellent sphincter control. There was no evidence of recurrent disease and the defect in the pelvis was only about 10% of its original size.

Case 4. H.C. Hospital No. 36647. This 59 year old, married, white female was admitted to the Memorial Hospital on 10-31-49 with recurrent adenocarcinoma of the recto-sigmoid, involving both parametria, right lower ureter, cervical stump, and soft tissues of the left lower abdominal quadrant. One year previously, an incompletely obstructing carcinoma, grade IV, of the rectosigmoid had been resected and continuity of the bowel re-established by anastomosis of the upper sigmoid to the rectum. Many years prior to this operation a supracervical hysterectomy and right salpingo-oophorectomy had been performed. At the present admission, complete examination failed to reveal the presence of metastatic disease other than that previously mentioned. X-ray examination of the chest was negative for metastases. Barium enema

revealed an incompletely obstructing lesion 10 cm. from the anus, which was confirmed by sigmoidoscopy. Cystoscopy revealed displacement of the right side of the base of the bladder, apparently by tumor. The right ureter was found to be blocked 6 cm. above the vesical orifice, apparently by tumor in the right parametrium. I.V. pyelogram showed a slight hydronephrosis on the right side. Renal function tests showed adequate kidney function. The entire mass was movable. The initial blood count, urinalysis and blood chemistry determinations were within normal limits.

On 11-4-49 operation, consisting of en-bloc resection of pelvic lymph nodes, combined abdomino-perineal resection, resection of recurrent tumor; parametria, left adnexae, right lower ureter, cervical stump, and upper half of the vaginal canal, with implantation of the right ureter into the fundus of the bladder was performed, along with resection of the left lower abdominal quadrant. Exploration of the abdomen at the time of operation showed no evidence of disease except for that which was completely resected. In spite of meticuluous ligation of blood vessels, continuous unexplained oozing of blood from the operative area in the pelvis occurred. During the 10½ hour operative procedure she received 8000 c.c. of blood, 2100 c.c. of plasma, 3000 c.c. of 5% glucose in saline, and 2000 c.c. 5% glucose in water intravenously. She tolerated the operative procedure well, the B.P. at the beginning being 130/80, with a pulse rate of 80 per minute, while at the conclusion of the operation the B.P. was 110/62, and the pulse rate was 102 per minute.

She did well postoperatively and was ambulated on the eighteenth postoperative day. She was discharged from the hospital on 12-9-49. When last seen in March, 1950, she was completely asymptomatic and performing light household duties. There was no evidence of recurrent tumor and no disturbance in urinary function. The pelvic defect consisted only of a small sinus several millimeters in diameter and about 3 cms. in depth. Her mental outlook is excellent.

Case 5. M. VanD. Hospital No. 79926. This 64 year old, white widow was admitted to Memorial Hospital on 9-10-48 with a massive primary melanoma of the vagina, filling practically the entire vaginal canal, involving the vaginal walls, parametria, peri-rectal and peri-vesical tissues. The entire tumor was movable. Both groins were negative, and careful examination failed to reveal metastatic disease. X-ray examination of the chest was negative for metastases. The blood count, urinalysis and blood chemistry determinations were within normal limits. The I.V. pyelogram showed complete absence of a kidney shadow on the right side (this was later found to be due to complete destruction of the kidney by an old healed tuberculous process).

On 9-20-49 operation, consisting of en-bloc complete pelvic and perineal evisceration, (resection of common iliac, external iliac, hypogastric and obturator lymph nodes; internal iliac vessels and branches; bladder, urethra, lower ureters; uterus, adnexa, parametria; tumor; pelvic sigmoid, rectum, anus; vagina, vulva and perineum), with ligation of the right ureter and implantation of the left ureter into the sigmoid colon proximal to the colostomy, by a modified Coffey I technique, was performed. Careful examination of the entire abdomen failed to reveal the presence of metastatic disease other than that which was completely resected. The patient tolerated the 12 hour operative procedure fairly well, the B.P. at the beginning being 115/78, while two hours following the completion of the procedure the B.P. was 140/100. She received 6300 c.c. of blood, 2000 c.c. of plasma, and 1000 c.c. of 5% glucose in saline intravenously during the course of operation. The immediate postoperative course was good.

The urinary output of 600 c.c. occurred in the first six hours, after which time the urinary output completely ceased. Failure of urinary output continued up to the fifth postoperative day. Whether this represented a lower nephron nephrosis or a block of the ureter which had occurred six hours after operation was not certain. Difficulty was encountered in attempting to maintain normal electrolyte balance. The patient began to show the ill effects of continuous retention of nitrogenous waste products, and since her general condition was deteriorating rapidly, a nephrostomy was performed on the fifth postoperative day. However, the patient

failed to improve, and expired as a result of uremia on her sixth postoperative day (9-26-48). Autopsy examination revealed the presence of a small 3 x 6 mm. clot, which had formed in the postoperative period, and resulted in occlusion of the lower end of the implanted ureter. The right kidney was found to consist of only a shell containing calcified material, presumably having been destroyed by an old tuberculous process.

Case 6. A.S. Hospital No. 85244. This 55 year old, married, white female was admitted to the Memorial Hospital on 11-14-49 with a large squamous cell carcinoma of the cervix, with massive infiltration of both parametria, and adjacent peri-vesical and peri-rectal tissues. The entire mass was movable. She had previously been seen in April, 1949 in another institution, at which time she gave a history of post-menopausal bleeding of 2¼ years duration. She received external irradiation and radium therapy in that institution without any significant regression of the lesion. At the time of present admission careful examination failed to reveal evidence of metastatic disease, other than that noted in the pelvis. X-ray examination of the chest was negative for metastases. I. V. pyelogram showed poor kidney function on the left side. The BUN was 12 mg.%. Patient was a known hypertensive, although there had been no previous evidence of failure. B.P. on admission was 250/110.

On 11-23-49 an operation, consisting of en-bloc complete pelvic and perineal evisceration, (resection of common iliac, external iliac, hypogastric and obturator lymph nodes; internal iliac vessels and branches; bladder, urethra, lower ureters; uterus, adnexa, parametria; tumor; pelvic sigmoid, rectum, anus; vagina, vulva and perineum), with implantation of both ureters into the colon proximal to the colostomy by a modified Coffey I technique, was performed. In spite of her hypertension, she tolerated the 9½ hour procedure extremely well. She received 4500 c.c. of blood, 2000 c.c. of 5% glucose in saline intravenously during the course of the operation. Careful exploration of the abdomen at the time of operation failed to reveal the presence of disease, other than that which was completely resected, and thus this patient has a good chance of being permanently cured of an otherwise hopeless disease. The urinary output began immediately after operation, and thereafter the output varied from 1000-2600 c.c. daily. Ambulation was begun on 12-14-49. Her postoperative course was quite good. Her wound healed her primam. On 1-9-50 the BUN was 14 mg.%.

She was discharged from the hospital on 1-14-50, at which time she was completely asymptomatic. In March, 1950, on follow-up examination, she was progressing satisfactorily. There was no evidence of recurrent disease. The wet colostomy was being well managed by a modified "Rutzen Bag." The pelvic defect was approximately 25% of its original size. Her mental outlook is excellent.

Case 7. F.K. Hospital No. 46622. This 55 year old, white male was admitted to the Memorial Hospital on 11-5-48 with numerous perirectal sinus tracts and multiple fistulae in ano, of years duration, and with incomplete obstruction of the rectum. Examination revealed the patient to be in fairly good condition. There were numerous fistuluous tracts and sinuses, and extensive induration in the perirectal area extending out to the buttocks. There was an obstructing mass in the rectum with adjacent mass filling practically the entire pelvis. The entire mass was movable, except for fixation to the lower end of the sacrum, coccyx, and prostate gland. Biopsy of one of the sinus tracts revealed adenocarcinoma, grade III, which represented extension down the tract from an adenocarcinoma of the rectum which had infiltrated extensively into the perineum. The groins were negative for metastases, and examination failed to reveal evidence of disease other than that previously mentioned. X-ray of the chest was negative for metastases. X-ray of the sacrum was negative for invasion by tumor, and apparently the tumor was fixed only to the periosteum overlying the lower end of the sacrum.

On 11-12-48 incomplete pelvic and perineal evisceration was performed by an en-bloc combined abdomino-perineal resection; resection of prostate; pelvic lymph nodes, lower sacrum, coccyx; wide excision of perineum and adjacent gluteal muscles; and a segment of the urethra, which was re-anastomosed end

to end; cystotomy was performed in order to carefully delineate the extent of the tumor and preserve this structure from injury. The bladder was closed prior to closure of the abdomen. Careful examination of the abdomen during operation failed to reveal evidence of disease except for that which was resected. The patient tolerated the 8 hour operative procedure very well, receiving 3500 c.c. of blood, 300 c.c. of plasma, and 3000 c.c. of 5% glucose in water intravenously during the course of the operation. The postoperative course was quite good. The colostomy functioned well, and the abdominal wound healed per primam. He was discharged from the hospital 12-17-48, and shortly afterwards returned to work.

On a follow-up examination 4-1-49 a metastatic lymph node was noted in the left groin and on 4-4-49, a left radical groin dissection was performed. However, at the time of performance of the groin dissection tumor was found fixed to the pubic bone. Postoperative course was essentially uneventful, and he was discharged on 4-26-49. He did well for several months, but finally expired on 8-3-49 of metastatic disease.

Case 8. F.L. Hospital No. 79739. This 44 year old, married, white female was admitted to the Memorial Hospital on 2-15-49 with recurrent carcinoma of the cervical stump and bilateral parametrial involvement, with involvement of the lower end of the right and adjacent portion of the right side of the bladder. In 1944 a supracervical hysterectomy had been performed in another institution. In the summer of 1948 carcinoma of the cervical stump, (squamous cell carcinoma, grade III), was discovered, and she received an adequate course of irradiation and radium therapy at the Carpenter Memorial Clinic. At the time of present admission the entire tumor mass was movable. Her general condition was excellent and there was no evidence of disease other than that noted in the pelvis. Examination of the chest by x-ray was negative for metastases. A complete G.U. investigation revealed slight hydronephrosis on the right side and distortion of the right side of the base of the bladder by tumor.

On 2-23-49 an en-bloc resection of common iliac, external iliac, hypogastric and obturator lymph nodes; internal iliac vessels and branches; right side of the bladder, including its base, along with the right lower ureter; recurrent tumor; parametria, cervical stump, upper vagina; with implantation of the right ureter into the sigmoid colon by a modified Coffey I technique, was performed. The patient tolerated the 9 hour operative procedure very well, the B.P. at the beginning of the operation being 130/90, with a pulse rate of 70 per minute, and at the conclusion, the B.P. was 130/90, with a pulse rate of 90 per minute. She received 3500 c.c. of blood, 2000 c.c. of 5% glucose in saline intravenously during the operation. Exploration of the abdomen failed to reveal evidence of disease other than that which was resected, and thus the patient should have a good chance of being permanently cured of her otherwise hopeless disease. The postoperative course was quite good. Urinary flow began immediately after operation, and continued from the transplant in a satisfactory manner.

Since the patient had received heavy irradiation preoperatively, and since a great portion of the blood supply of the bladder had been sacrificed during the operation, a vesicovaginal fistula appeared on the twenty-first postoperative day. Shortly afterwards, the entire necrotic bladder extruded itself through the urethra.

On 4-1-49 the left ureter was implanted in the sigmoid colon by a modified Coffey I technique. Postoperative course was quite smooth, and the urinary output per rectum continued in a satisfactory manner. She was discharged from the hospital completely asymptomatic on 4-15-49.

On a recent follow-up examination, thirteen months postoperatively, she was found to be completely well and leading a normal life. There was no evidence of recurrent disease. She usually voids rectally about every five hours during the day, and seldom has to get up at night. There is excellent sphincter control. The BUN on 12-6-49 was 13 mg.%.

Case 9. B.A. Hospital No. 80532. This 46 year old, colored female was admitted to the Memorial Hospital on 4-20-49, with repeated episodes of severe vaginal bleeding due to a recurrent carcinoma of the cervix.On 12-27-48

she was first seen in the Carpenter Memorial Clinic with a bulky squamous cell carcinoma of the cervix, which had extended to involve both parametria. She received a full course of external irradiation, followed by intrauterine radium. Clinical regression of the lesion occurred. On a follow-up examination 4-6-49 recurrent carcinoma was noted in the cervix and there was massive involvement of both parametria, with extension to the perivesical tissues and adjacent bladder. There was apparently no peri-rectal or rectal invasion. The entire tumor mass was movable. Examination of the chest was negative for metastases. I.V. pyelogram, retrograde pyelograms showed no abnormalities. The blood chemistry determinations were within normal limits. The anemia was corrected by multiple transfusions.

On 5-3-49 an en-bloc incomplete pelvic and perineal evisceration, (common iliac, external iliac, obturator and hypogastric lymph nodes; internal iliac vessels and branches; bladder, urethra; uterus, adnexae, parametria; tumor; vagina and vulva), with implantation of both ureters into the sigmoid colon, was performed. Exploration of the abdomen at the time of operation showed no evidence of disease other than that which was resected, thus this patient has a good chance of being cured of her disease. The rectum was preserved, since it was not involved by tumor. She tolerated the 11½ hour operative procedure very well; the B.P. at the conclusion being 130/90, with a pulse rate of 90 per minute. She received 4100 c.c. of blood, 1000 c.c. of plasma, 2000 c.c. of 5% glucose in saline and 1000 c.c. 5% glucose in water intravenously, during the course of the operation.

The general postoperative course was quite good. Urinary flow from the implants began immediately after operation and a daily output of 1200-1500 c.c. per rectum was recorded. She was ambulatory on the seventh postoperative day. Seventeen days postoperatively a small fistula occurred on the anterior rectal wall, thus somewhat complicating the postoperative course. Since she lived a great distance from the hospital and had no one to offer her care she was necessarily delayed in the hospital for several months, in order to allow the large pelvic defect and fistula to contract. She was discharged on 8-20-49, at which time the pelvic defect was only about 25% of its original size and the fistula could be fairly well controlled by daily change of a small amount of packing. At the time of discharge BUN was 7 mg.%. She was entirely ambulatory.

On follow-up examination on 12-14-49 there was no evidence of recurrent disease. The defect in the pelvis and perineum consisted of a tract ¼" by 2". The small fistula was still present and well controlled by daily change of packing. She was asymptomatic and performing light household duties. The BUN was 19 mg.%. A letter received in March, 1950, stated that the patient continued to progress in a satisfactory manner.

Case 10. H.B. Hospital No. 83212. This 63 year old, white, married female was admitted to the Memorial Hospital on 12-15-49. She was first seen in the Carpenter Memorial Clinic by Dr. John F. Hynes on 4-12-49, with a carcinoma of the cervix involving the entire circumference of the adjacent vagina. She received a full course of external irradiation, followed by intrauterine radium. Complete clinical regression of the lesion occurred. Recurrence was noted on the anterior vaginal wall on 10-4-49, and she received irradiation through a per-vaginal cone, following which there was again complete regression of the lesion. On 11-1-49, recurrent carcinoma of the cervix and a portion of the adjacent vaginal wall was again noted. Biopsy showed squamous cell carcinoma. She was otherwise free of metastatic disease. X-ray examination of the chest showed no evidence of metastases.

Following admission a moderately, severe, previously unrecognized diabetes was found and controlled by diet and insulin. EKG showed left ventricular preponderance and anterior myocardial damage, most likely on the basis of an old anterior infarct. However, there was no definite evidence of failure. Since her disease was recurrent and involved the circumference of the vaginal canal when first noted, it was felt that complete evisceration was necessary in order to be sure that all disease would be removed. Aside from the diabetes her blood chemistry and laboratory determinations were essentially within normal limits.

On 12-28-49 a complete pelvic and perineal evisceration (common iliac, external iliac, hypogastric and obturator lymph nodes; internal iliac vessels and branches; bladder, urethra; uterus, adnexae, parametria; pelvic sigmoid, rectum; anus, vagina; perineum and vulva), with implantation of both ureters into the colon proximal to the colostomy by a modified Coffey I technique, was performed. Exploration of the abdomen at the time of operation, revealed absence of disease other than that completely resected, thus it was felt that this patient had an excellent chance of being permanently cured. She tolerated the 9½ hour operative procedure extremely well, the B. P. at the beginning of the procedure being 110/70, with a pulse rate of 70 per minute, while at the conclusion the B.P. was 110/60, with a pulse rate of 80 per minute. She received 5500 c.c. of blood, 2000 c.c. of 5% glucose in saline intravenously during the course of the operation.

However, it was noted during the operation that no flow of urine occurred from the divided ureters, and at the conclusion of the operation large wheals were noted on the skin. This probably indicated an unrecognized transfusion reaction during anesthesia, with the result that a lower nephron nephrosis had occurred. Although no urinary flow appeared until the seventh postoperative day, her general condition remained good. The urinary output rapidly increased, and attained a satisfactory level. On the fifteenth postoperative day (1-12-50), while the patient was sitting up eating her evening meal, she suddenly expired. Postmortem examination revealed a massive pulmonary embolism. No evidence of residual carcinoma was found in the body.

Case 11. A.S. Hospital No. 37327. This 46 year old, colored female was admitted to the Memorial Hospital on 9-14-48 with a carcinosarcoma, (probable radiation cancer) of the uterus, involving parametria, bladder and vagina, with an accompanying vesico-vaginal fistula. This patient had first been seen in Carpenter Memorial Clinic by Dr. John F. Hynes in 1935, with an anaplastic carcinoma of the cervix. Following treatment by irradiation she refused to return for follow-up examinations until 1946, when she was admitted to the hospital with a vesico-vaginal fistula and mild uremia. There was no evidence of recurrent disease at this time. The fistula was repaired but recurred in fifteen days following surgery, and the patient was discharged. She again failed to return for follow-up examinations until just before the present admission. X-ray examination of the chest was negative for metastases. BUN was slightly elevated. Previous episodes of urinary tract infection had resulted in impairment of renal function. Thus it was decided to first implant the ureters into a divided segment of the colon, in order to allow for improvement in renal function. Attempt at I.V. pyelograms were unsuccessful, and it was obviously impossible to do retrograde pyelograms, due to the presence of the fistula. On 10-15-48 both ureters were implanted into the distal sigmoid colon and the proximal colon was brought out as colostomy.

On 11-15-48 an en-bloc resection of the pelvic lymph nodes; uterus; parametria, adnexae; bladder; urethra; and vagina was performed. Unfortunately, during the last stages of completion of the resection it was noted that there was slight fixation of tumor to the lateral pelvic wall, thus obviously indicating that a cure would not be obtained. However, it was felt that palliation would be offered. She tolerated the 7½ hour operative procedure well, receiving 4000 c.c. of blood, 1200 c.c. of plasma, 3000 c.c. 5% glucose in water, and 1000 c.c. of 5% glucose in saline intravenously during the course of the operation. The patient did well in the immediate postoperative period. The output from the implants was good. On the thirteenth postoperative day a small fistula of the terminal ileum occurred. The fistula resulted in no significant ill effects on the general status of the patient, and the electrolyte balance could be well controlled by the addition of 30 grams of sodium bicarbonate, daily, in divided doses. She was quite insistent on going home, and since no attempt for the immediate repair of the fistula was contemplated, she was allowed to leave the hospital on 12-2-48. The BUN several weeks prior to discharge, was 22 mg.%. The patient suddenly died at home, of unexplained causes, about ten days after discharge from the hospital.

Case 12. E. G. Hospital No. 69210. This

45-year-old, colored female was admitted to the Memorial Hospital on 7-25-49. She was first seen in the Carpenter Memorial Clinic by Dr. John F. Hynes on 10-27-48, with a squamous cell carcinoma of the cervical stump (grade IV). She was treated by an adequate course of external irradiation and radium therapy, with complete regression of the lesion. In May, 1949 recurrent carcinoma involving the cervical stump, parametria, perivesical and peri-rectal tissues was noted. The entire lesion was movable. Complete examination failed to reveal the evidence of metastases elsewhere. X-ray examination of the chest showed no metastases. Pyelograms showed no abnormality. The kidney function was good. The blood chemistry determinations were within normal limits. The anemia which was present was corrected by 1000 c. c. of blood preoperatively.

On 8-10-49, complete en-bloc pelvic and perineal evisceration, (common iliac, external iliac, hypogastric and obturator lymph nodes; internal iliac vessels and branches: pelvic sigmoid; rectum; anus; bladder; cervical stump; tumor; parametria; vagina and perineum), with implantation of both ureters into the colon proximal to the colostomy, was performed. Complete exploration of the abdomen at the time of operation showed no evidence of disease except that which was resected; thus she had an excellent chance of being permanently cured. She tolerated the 12 hour operative procedure well, receiving 5000 c. c. of blood, 1000 c. c. of 5% glucose in saline, and 2000 c. c. of 5% glucose in water intravenously. There was immediate urinary flow from the transplanted ureters, and the urinary flow continued in a satisfactory manner throughout the postoperative course. She was ambulatory on the seventh postoperative day. On the thirty-third postoperative day (9-12-49) an ileo-perineal fistula occurred.

On 10-14-49 complete exclusion of the fistula was performed by transection and closure of the ends of the fistulous segment, and by side-to-side ileo-cecostomy. She did fairly well, and was discharged from the hospital 11-26-49. The BUN shortly before discharge (11-21-49) was 13 mg. %.

She was again admitted to the hospital on 12-28-49 in a state of severe starvation, showing severe malnutrition (weight 48 lbs.), severe anemia, and de-hydration. It was most shocking to see this patient return in such a state, and apparently this situation was the result of neglect and inability to have someone provide for her at home. In retrospect, this situation could have been prevented if the patient had been discharged to an institution where she could have at least received proper nutrition. Soon after admission the patient was transfused, and an attempt made to correct the marked malnutrition by parenteral alimentation and nasal tube feeding. However, the patient was apparently in an irreversible stage of starvation and she expired 1-1-50. Postmortem examination revealed no evidence of residual tumor in the body, and showed merely severe wasting of the viscera, as a result of inanition.

B. Portacaval shunt for portal hypertension, secondary to severe sarcoidosis of the liver.

Case 13. E. C. Hospital No. 62286. This 26-year-old, colored, married female was admitted to the Memorial Hospital on 11-24-47, with marked ascites producing severe dyspnea, with generalized Boeck's sarcoidosis. At the time of admission, the liver and spleen were tremendously enlarged. Since first discovery of her disease the process had remained somewhat stationary except for the increased involvement in the spleen and liver. The liver involvement had produced enough portal hypertension to result in ascites. The resultant symptoms were such as to make an invalid out of her. After some deliberation it was decided to resect the spleen and lower the venous pressure in the portal system by means of a shunting operation.

On 12-11-47 splenectomy and portacaval shunt, by means of an end-to-side splenorenal venous anastomosis, with preservation of the kidney, was performed.[5] [6] The patient tolerated the 8 hour procedure fairly well, receiving 5500 c. c. of blood and 1000 c. c. of 5% glucose in saline intravenously, during the course of the operation. The postoperative course was complicated by a number of distressing developments. However, she was discharged from the hospital on 3-20-48. She was completely relieved of the dyspnea and ascites, and the improvement

of general well-being was marked. The patient was able to perform light household duties, and at one time became pregnant, for the first time in her life, but aborted spontaneously early in her pregnancy. She was again admitted to the hospital in December, 1949 with a short history of dyspnea and occasional vomiting. There was evidence of renewed activity of her disease, particularly in the lungs, and she suddeny died on 12-11-49, almost two years following her operation. Postmortem examination revealed marked involvement of lymph nodes throughout the body, lungs, liver and other viscera. In spite of death from exacerbation of her disease, there is no doubt that the excellent palliation that she received justified the operative procedure. There was no recurrence of ascites following the operation.

C. Total thoracic esophagectomy with intra-thoracic cervical esophagogastrostomy, for carcinoma involving or extending to the superior mediastinal segment of the esophagus.

Case 14. C. M. Hospital No. 49738. This 70-year-old, white male was admitted to the Memorial Hospital on 4-27-48 with an incompletely obstructing carcinoma of the upper thoracic esophagus. His general condition was fairly good. Exarticulation of the left half of the mandible had been performed by Dr. John F. Hynes on 9-26-39 for squamous cell carcinoma of the gum, involving the bone. The patient had apparently been cured of this lesion, since there was no evidence of recurrence. At the time of the present admission barium swallow showed an incompletely obstructing lesion of the upper esophagus, and by esophagoscopy the lesion was encountered 20 cm. from the upper alveolar arch. Biopsy revealed a squamous cell carcinoma, grade IV, of the esophagus. The EKG was essentially normal. The chest x-ray showed no evidence of pulmonary metastases. The blood chemistry determinations were within normal limits. The presenting anemia was corrected by 1500 c. c. of blood preoperatively.

On 5-6-48, a bilateral prophylactic superficial femoral vein ligation was done.

On 5-13-48 a trans-pleural approach, through the bed of the resected sixth rib, was employed to enter the left pleural cavity. The carcinoma of the esophagus was found to begin 4 cm. above the superior margin of the aortic arch, and extended underneath and below the arch, (longitudinal extent of the tumor was 10 cm.). The tumor was found to be resectable. By mobilization of the aortic arch, it was possible to free the entire esophagus, after which the diaphragm was incised and the stomach mobilized, so that it could easily be brought up to the apex of the pleural cavity. The entire thoracic esophagus was resected. The remaining 4 cm. of the cervical esophagus was gently mobilized and held downward by traction sutures, after which the stomach was anastomosed to the cervical esophagus.

The point of anastomosis lay about 2 cm. above the jugular notch. The patient tolerated the 10½ hour operative procedure extremely well. Quinidine lactate had been given preoperatively, and during the course of the operation to prevent possible cardiac arrythmias.* The pulse was regular throughout the operation. The B. P. at the conclusion of the operation was 124/90, the pulse rate being 86 per minute. He received 3750 c. c. of blood, 3000 c. c. of 5% glucose in water, and 1000 c. c. 5% glucose in saline intravenously during the operation.

He did very well postoperatively, and was ambulatory several days after operation. He was eating a solid diet by his tenth postoperative day, without discomfort. On the eighteenth postoperative day, shortly before contemplated discharge from the hospital, he suddenly vomited a large amount of blood, which he promptly aspirated, resulting in immediate asphyxiation. The cause of this unusual complication is not known, since postmortem examination was not permitted.

Case 15. A. H. Hospital No. 82875. This 82-year-old, white, widowed female was admitted to the Memorial Hospital on 4-26-49 with a history of progressive dysphagia, beginning in December, 1948. She had lost approximately 25 lbs. in weight, and at the time of admission, could ingest only liquids. There was moderate anemia, which was corrected by several transfusions of blood. Barium swallow showed a lesion of the upper thoracic esophagus, which was confirmed by esopha-

*Under the supervision of Dr. A. Henry Clagett, Jr., Consultant Cardiologist, Memorial Hospital.

goscopy. X-ray examination of the chest was negative for metastases. The patient showed a moderate degree of arteriosclerosis, and there was some impairment in renal function. However, it was felt that the patient would be able to withstand a resection of the esophagus.

On 5-2-49 a bilateral prophylactic superficial femoral vein ligation was done.

On 5-10-49 the chest was entered through the bed of the resected sixth rib, and the incision continued across the costal margin into the abdomen to convert it into a combined thoraco-abdominal incision. A carcinoma of the esophagus, which extended 3-4 cm. above the superior margin of the aortic arch, underneath and below the arch for 5 cm., was found The lesion was considered resectable. After mobilizing the aortic arch, the entire esophagus and stomach were mobilized, so that the latter could be easily brought into the apex of the left pleural cavity. The entire thoracic esophagus was resected. The proximal 4 cm. of cervical esophagus was held downward with traction sutures, and a cervical esophagogastrostomy was performed.

The patient tolerated the 11 hour operative procedure extremely well. She had previously been placed on quinidine lactate to prevent the development of cardiac arrythmias. The B. P. at the beginning of the operation was 150/80, with a pulse rate of 90 per minute; and at the conclusion of the operation the B. P. was 140/100, with a regular pulse of 90 per minute. During the operative procedure, she received 3350 c. c. of blood, 1000 c. c. of 5% glucose in saline and 1000 c. c. of 5% glucose in water intravenously.

The immediate postoperative course was satisfactory. Barium swallow on the seventh postoperative day showed that the stomach failed to empty at the pylorus, presumably due to pyloro-spasm occurring as a result of the necessary division of both vagi nerves, during the course of the operation. Maintenance of adequate nutrition and electrolyte balance by intravenous route was apparently not completely satisfactory. On the tenth postoperative day the abdomen and lower chest were re-explored, and no mechanical obstruction of the pylorus was found; thus confirming the inability of the stomach to empty due to pyloro-spasm. AWitzel jejunostomy was performed. She tolerated the procedure fairly well. However, the long continued and taxing postoperative course began to show its effects on the patient, and evidence of mild congestive failure appeared.

On the fifth postoperative day (5-26-49) at a time when the patient showed signs of gradual improvement, she suddenly expired. Postmortem examination revealed the anastomosis between the upper 4 cm. of cervical esophagus and stomach to be completely healed and presenting an adequate stoma. No obstruction to the outlet of the stomach was demonstrated. Death was presumably due to degenerative diseases of the heart and kidneys.

Case 16. O. K. Hospital No. 85353. This 65 year old, white female was admitted to the Memorial Hospital on 11-25-49 with an incompletely obstructing carcinoma of the upper thoracic esophagus. She was somewhat anemic, dehydrated, and had lost an unknown amount of weight prior to admission. She could swallow only liquids, and was quite resentful of her marked dysphagia. On the day of admission she had severe chest pain, which was proved to be a myocardial infarction. Barium swallow showed a high esophageal lesion, producing incomplete obstruction. Esophagoscopy confirmed the presence of a lesion beginning 20 cm. from the upper alveolar arch, and biopsy showed squamous cell carcinoma. She was treated by parenteral alimentation, high protein liquids by mouth, and the existing anemia was corrected by multiple blood transfusions.

On 12-5-49, a bilateral prophylactic superficial femoral vein ligation was carried out.

The patient's dysphagia gradually increased. She was quite insistent on being operated upon for relief of symptoms, even though she knew she presented an extremely poor risk. In view of the increased symptoms and the known behavior of the disease, the medical consultant agreed that she should undergo operation, although he fully realized that her chance of survival, following the recent myocardial infarction, was small.

On 1-11-50, through a combined thoraco-abdominal approach, the esophagus was exposed. Beginning at a point 2 cm. below where the cervical esophagus entered the

chest, a bulky carcinoma of the esophagus was found, which involved the entire thoracic esophagus. After incising the diaphragm, extension of the tumor into the cardia of the stomach was noted. There were several nodes in the region of the mediastinum and celiac axis. Realizing it was impossible to remove all the disease, it was decided to resect the entire esophagus in order to obtain palliation from the dysphagia. After mobilizing the aortic arch, the entire thoracic esophagus and upper stomach were resected. The remainder of the stomach was converted into a tube-like structure, which could readily be brought up to the apex of the pleural cavity and anastomosed to the cervical esophagus without tension. She tolerated the 10½ hour operative procedure very well. The B. P. at the conclusion of the operation was 130/100, with a regular pulse of 84 per minute. During the course of the operation she received quinidine lactate to prevent the occurrence of cardiac arrythmias. She received 4000 c. c. of blood and 2000 c. c. of 5% glucose in water, intravenously, to which quinidine lactate had been added, during the course of the operation.

The first postoperative day the patient showed no more ill effects than those following a routine appendectomy. However, on the second postoperative day signs of congestive failure appeared, and in spite of treatment the patient expired on 1-15-50. Postmortem examination showed degenerative disease of the heart and vessels. The anastomosis of the remaining 3.5 cm. of the cervical esophagus to the stomach was found to be intact, patent and healing well. It may be noted that the resected specimen in this case was most unusual, in that carcinoma had involved practically the entire thoracic esophagus, extending downward to involve the upper fundus and cardia of the stomach.

DISCUSSION

Complete pelvic and perineal evisceration with ureteral-colic implantation represents a new operative procedure, which has been devised for the extirpation of advanced and usually hopeless carcinoma, confined to the pelvis. The necessity for this operation first came to the attention of the author in September, 1948, when Case 5 presented herself with an extensive primary melanoma of the vagina. Obviously, the lesion could not be cured by radiation, since this lesion is relatively radio-resistant. In considering the anatomical extent of the tumor it seemed apparent that the only way in which the disease could be completely extirpated was by the removal of all the pelvic and perineal structures, followed by the implantation of the ureters into the colon proximal to the colostomy. Whether an individual could tolerate such a formidable procedure was a matter of immediate speculation within the author's mind. However, after careful consideration of the problem it was decided that the procedure could be performed, provided huge quantities of blood were administered during the course of the operation. The problem was discussed with the patient's family, and they decided that they would be willing to accept the proposed procedure, rather than have the patient die without an attempt being made to cure the disease. Accordingly, a complete pelvic and perineal evisceration, with implantation of the left ureter into the colon proximal to the colostomy was performed. It may be noted that the patient tolerated the operative procedure very well, and strengthened the author's conviction that the procedure was practical and could be undertaken with a reasonable risk. The unfortunate outcome in this individual was the result of a rather rare complication—blockage of the ureter by a small clot during the immediate postoperative period. Had this not occurred it is reasonable to assume she would have left the hospital alive.

The employment of this operation for primary melanoma of the vagina will undoubtedly occur with extreme rarity in the future. Only 18 previously reported authentic cases of this disease have been recorded in literature to date. The 18th case was a 26 year old, white female, who was subjected to a radical extirpation of her disease by the author[7] in December, 1946. This patient is free of disease and leading a normal existence at the time of this publication.

The demonstration that an individual could tolerate this formidable procedure so well immediately brought to mind the use of this operation for the more frequently seen advanced cervical and uterine carcinoma, and

for similar carcinoma which recurs following previous irradiation. Thus the majority of the subsequent eviscerations contained in this report were employed for recurrent and otherwise hopeless pelvic carcinoma. The results to date have been encouraging. Further support in the defense of this operation came to the attention of the author shortly after the performance of Case 5, when it was discovered that Brunschwig[2] had recently reported on a similar operation for the treatment of hopelessly advanced pelvic carcinoma. He reported on 22 patients whom he had subjected to extirpation, with an immediate operative mortality of 23%. His longest postoperative survival was a 47 year old female who was living and apparently free of disease seven months after operation. Apparently no other reports of this operation have been recorded in literature to date. This procedure can also be extended and employed for extensive carcinomas of the prostate, bladder, or lower sigmoid, rectum and anus, provided the disease is confined to the pelvis at the time the patient is seen. In a few patients resection may even be advisable in the presence of limited distal metastases for palliation only. One must keep in mind that all of the patients subjected to evisceration in this report were previously classified as hopeless cases. Even if the number of resultant cures from this procedure should eventually prove to be small the patient should be given the opportunity of having the disease removed, since some of these patients will undoubtedly be cured.

A brief review of the 12 eviscerations reveals certain significant findings. As previously mentioned, one case died on the sixth postoperative day, of ureteral obstruction (Case 5). It will be recalled this patient had only one ureter transplanted, since the other kidney had been completely destroyed by an old tuberculous process. Had the diagnosis of mechanical ureteral obstruction been made with certainty, an earlier nephrostomy would have been performed, with a greater possibility of saving her life.

Case 10 died on the fifteenth postoperative day of a massive pulmonary embolism. At the time of her death she was in excellent condition and represented one of the cases in which it seemed reasonable to hope she might have been permanently cured of her disease had she survived. It was well appreciated that death from pulmonary embolism might occur in any of these cases. However, following this type of procedure, it is impossible to place the patient on anti-coagulant therapy for fear of severe bleeding from the large denuded surfaces, and likewise it is inadvisable to perform prophylactic ligation of the superficial femoral veins, since the major portion of the collateral venous channels in the pelvis are resected during the course of the operation. Thus, two cases out of twelve, or 16 2/3%, represents the operative mortality. This is indeed an insignificant mortality rate, when one considers the extent of the operation, and the fact that all cases would have expired soon from hopeless carcinoma. It may also be noted that no patient was denied resection on the basis of age or the presence of other complicating diseases.

Case 7 died nine months postoperatively from metastatic disease. However, it was realized at the time of operation that the extensiveness of the disease would make his chance of being cured rather remote. Yet he received definite palliation from the operation.

Case 12 represents a patient who had a good chance of permanent cure of her disease and yet expired as a result of severe inanition due to inability to obtain proper care at home. Had her circumstances been different the outcome might have been more favorable.

Case 11 had a rather sudden, unexpected death at home, from unknown causes, shortly after discharge from the hospital. This patient, however, represented the only case in which a definite amount of residual disease was found to be not completely resectable during the course of operation.

In all, five of the twelve eviscerations, (41 2/3%) have died, two being postoperative deaths, and three dying later. Seven, (58 1/3%) of the patients are living and apparently free of disease to date. The longest postoperative survival is thirteen months (Case 8). Most of these patients are asymptomatic and performing household duties, and in one case part-time newspaper work. They all have an excellent mental outlook. Each volunteers the information that she was glad

the procedure had been performed, in spite of the slight inconvenience resulting from the anatomical changes produced by the operation.

No detailed discussion will be given of Case 13, since this patient was previously reported by the author.[5,6]

The operation of portacaval shunt for the correction of portal hypertension has been performed to date with relative rarity. In this patient operation was followed by excellent relief of symptoms which had incapacitated the patient, reducing her to a state of invalidism. For the remaining two years of her life following operation she was quite comfortable and that, in itself, is ample justification for having performed the procedure. It was well realized before operation that this patient might eventually expire of generalized exacerbation of her disease process, yet the operation was deemed advisable in order to relieve her of her incapacitating symptoms. The importance of the use of liberal amounts of blood in allowing the successful performance of this procedure cannot be overemphasized.

The accomplishment of resections for carcinomas of the esophagus indicate another achievement which is of recent origin. Adams and Phemister[1] reported the first successful resection of the lower esophagus with esophago-gastrostomy for a carcinoma of the lower thoracic esophagus in 1938. Subsequently numerous other attempts were made at resection of the esophagus; however, only until recently has carcinoma of the superior segment of the thoracic esophagus been attacked surgically.

At the time Case 14 was subjected to operation no report had yet appeared in the literature dealing with resection of the entire thoracic esophagus for carcinoma and the re-establishment of continuity of the G. I. tract by esophago-gastrostomy. In Case 14 it was found possible to resect the entire thoracic esophagus for carcinoma, and yet perform anastomosis of the remaining cervical esophagus to the mobilized stomach by trans-thoracic route. In this individual the uppermost limit of the lesion was found to be 4 cm. above the superior margin of the aortic arch. This 70 year old male tolerated the long operative procedure extremely well, and at the time of his sudden death on the seventeenth post-operative day, he was ambulatory, asymptomatic and eating solid food. A death from asyphyxiation following aspiration of vomited blood is an extremely rare and unexpected complication, and the source of bleeding was only conjectural, since postmortem examination was not permitted.

Case 15 represented an obviously poor risk, since she was 82 years of age and showed signs of degenerative diseases of the heart, kidneys and blood vessels. Her lesion extended 3-4 cm. above the superior margin of the aortic arch. The entire thoracic esophagus was resected and the cervical esophagus anastomosed to the transplanted stomach through a thoraco-abdominal approach. This patient also tolerated the long operation extremely well. It might be noted, parenthetically that both of these patients received quinidine lactate[11] during the immediate preoperative, operative, and postoperative period, under the supervision of Dr. A. Henry Clagett, Jr., in order to prevent the possibility of development of cardiac arrythmias. Both of these patients exhibited no changes in their cardiac rhythm. This patient also showed a rather unusual complication in her postoperative period, namely, inability of the outlet of the stomach to empty due to pyloro-spasm, which was the result of the necessary division of both vagi nerves, during the course of extirpation of the esophagus. The long protracted post-operated course apparently placed too great a burden on her already impaired cardio-vascular-renal system and she expired fifteen days after operation. Had the stomach emptied sooner in the postoperative period it is reasonable to assume this patient might have survived.

Case 16 represented an extremely poor operative risk, since she had a myocardial infarction six weeks prior to operation. The patient, in full possession of the facts, insisted upon operation and it was decided to accept the risk. This decision was further bolstered by the knowledge that the disease, untreated, would be unquestionably fatal within a short time. She tolerated total extirpation of the esophagus extremely well. Her death was not unexpected in view of her previous poor

cardiac status. The disease in this patient represents an unusual entity, since it involved practically the entire thoracic esophagus, and extended downward to involve the stomach. It will be noted that successful anastomosis of the stomach to the cervical esophagus was possible, even though a segment of the upper stomach was resected at the time of operation.

Very few reports of resections of the entire thoracic esophagus for carcinoma of the upper thoracic esophagus have appeared in the literature to date. In June, 1948, DeBakey and Oschner[3] reported resection of a carcinoma of the upper esophagus through a thoraco-abdominal approach, in a 77 year old colored male. The continuity of the alimentary tract was re-established by a high intrathoracic esophago-gastrostomy The lesion in this instance extended up to the level of the superior surface of the aortic arch. The patient did well, and was alive and apparently continuing to do well ten months postoperatively.

In July, 1948, Garlock [4] reported resection of a carcinoma of the esophagus extending one inch above the superior surface of the aortic arch, in a 46 year old, white female, through a combined left neck and thoracic approach. The entire thoracic esophagus was resected and the continuity of the alimentary tract re-established by anastomosis of the cervical esophagus to the stomach in the neck. The patient died 5 hours postoperatively, presumably of a vago-vagal reflex.

In December, 1948, Sweet[9] reported the resection of a carcinoma of the superior mediastinal segment of the esophagus in a 55 year old male, through a trans-thoracic approach. After mobilization of the stomach a portion of the first rib and clavicle were resected, and the stomach anastomosed to the cervical esophagus through a separate neck incision. The patient did well and was apparently living and presumably free of disease at the time of his report.

In June, 1949, Schefts and Fischer[8] reported resection of the entire esophagus and a portion of the adjacent pharynx, with anastomosis of the transplanted stomach to the pharynx, through a combined neck and transthoracic approach, in a 66 year old male with a carcinoma of the cervical esophagus, extending to the upper thoracic esophagus. The patent expired on the sixth postoperative day of a pulmonary embolism, and at postmortem examination the anastomosis was found to be intact.

The feasibility of resecting the esophagus for these lesions which were formerly considered not operable is well demonstrated by the above reports. Fortunately, carcinoma involving the superior thoracic segment of the esophagus is not common. However, since the operation for these lesions is now well established, more patients will be subjected to operation in the future and an increasing number of these patients will survive as experience is gained. The importance of the use of liberal quantities of blood in the successful performance of these long and difficult cases is obvious.

Conclusion

The entire series of cases herein reported serves to demonstrate what has been accomplished in the extension of the surgical sphere. This has been made possible only by the recent advances which have previously been mentioned, and particularly by the employment of massive quantities of blood during the operative procedures. During the performance of these long operations, particularly the pelvic eviscerations, considerable effort is expended to insure as good hemostasis as possible. However, at times, blood is lost rather rapidly by oozing from large denuded surfaces. At other times, rapid bleeding from temporarily inaccessible vessels necessitates the infusion under pressure, of 500-1000 c. c. of blood in a period of 5-10 minutes. Thus, it is obvious that large amounts of blood must be crossmatched and ready for instant use. The practice of continuously administering blood with the crossmatching of each pint, after half of the volume of the previous pint has been transfused, cannot be employed in these cases, since the necessity for infusion of blood rapidly makes it imperative that the blood be immediately on hand. The possibility of transfusion reaction occurring, when these large amounts of blood are administered, is more of an academic speculation than a real occurrence. No significant reactions have occurred in this entire series except for the

possibility of a reaction in Case 10. However, by careful attention to the postoperative electrolyte balance, this patient did extremely well, and recovered satisfactory urinary function until she suddenly died of massive pulmonary embolism.

In the employment of such large quantities of blood many problems immediately arise. The first consideration is obtaining the donors. As a rule donors can be obtained, provided the physician takes the necessary time to emphasize the necessity of having this blood readily available. Secondly, a spirit of unselfishness and cooperation must exist among the personnel of the laboratory and blood bank, since the detailed processing involved in handling the entire course of this blood necessitates the expenditure of a great deal of energy. The director of the blood bank should not offer objection to the use of blood in such large quantities, since the fear of transfusion reaction has been demonstrated to be more theoretical than real. Obviously, the surgeon is the one who must assume responsibility for any reaction which may occur, since he is well aware of the fact that no patient could survive these procedures if blood were not administered in large quantities, and at times in a rapid manner. Fortunately, the author has not encountered any difficulty in this respect, since the director of the blood bank and personnel have been most cooperative and have taken great pains and expended much effort in obtaining and administering this blood.

The relative safety of infusions of large quantities of blood support the practice of administering blood in any situation where there is any indication to warrant its use. Such situations arise in massive bleeding from the G. I. tract, associated with ulcer, varices, etc., and in hemorrhagic shock, etc. The conservative attitude of giving only small amounts of blood in these circumstances for fear of raising the blood pressure and promoting further bleeding, or of the danger of severe transfusion reactions, is apparently not based on proven fact. Undoubtedly, many patients seen in such a situation have been lost by failure to infuse sufficient quantities of blood.

SUMMARY

1. Sixteen cases representing formidable operative procedures are presented. All are of relatively recent origin, and the majority represent procedures which have been devised and employed to extirpate formerly hopeless disease.

2. The successful performance of these operations are based on the application of many recent advances, which have made it possible to extend the surgical scope and make these procedures relatively safe.

3. Massive blood transfusions (in one case, 11,000 c.c. of blood and 2250 c.c. of plasma) during the course of operation has been the one dominant factor which has made these surgical procedures possible, although it is well realized that other recent advances have contributed to the safety and success of these procedures.

4. This experience indicates that large amounts of blood can be rapidly infused with relative safety. Severe transfusion reactions are not common, and do not mitigate against the employment of large quantities of blood when indications for administration in this fashion are present.

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ADENOMA OF THE PARATHYROID*
Preliminary Report of a Case Associated with Osteitis Fibrosa Cystica.

John F. Hynes, M. D., and
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The diagnosis of adenoma of the parathyroid is made rarely, usually in association with osteitis fibrosa cystica or with recurrent renal calculi. Norris [5] in 1947 collected only 322 proven cases from the world literature. At the Memorial Hospital in Wilmington the diagnosis has been made once previously since 1935, in a series of 70,918 admissions. No case has been recorded at the Delaware Hospital since 1932 in 192,020 admissions, or at the St. Francis Hospital since 1947 in 8,010 admissions. The Wilmington General Hospital reports no cases since 1943 in 35,000 admissions. The first case (J. R., Memorial Hospital #42,764) diagnosed at the Memorial Hospital was operated upon elsewhere (Philadelphia) and the diagnosis confirmed. Only one other proven case has been found in the records of the hospitals of Delaware, a case from the State Welfare Home found at autopsy by Dr. D. M. Gay.

The relationship of parathyroid adenoma to osteitis fibrosa cystica was first suspected by Askanazy in 1904; however the first surgical removal of a parathyroid adenoma was reported by Mandl (4) in 1925. Since then, of the 322 cases collected by Norris (5), 80% were proven by operation, 20% by autopsy. Bilateral tumors occur rarely (6%) and tumors in aberrant positions for parathyroid tissue somewhat more frequently (11%), usually in the mediastinum (8%). Most of the reported cases (60%) showed only generalized osteitis fibrosa. A few (5%) showed only renal lesions such as stone or renal calcification. A larger group (30%) showed both osteitis fibrosa and renal lesions. The remaining showed neither (1.5%) or no record is available (2.5%).

Carcinoma of the parathyroid is extremely rare. In another collective review Norris (6) found 12 acceptable cases in the literature and added 3 more. Albright and Reifenstein (1) know of only 3 unquestioned cases, and found none in their series of 89 proved cases of hyperparathyroidism from the Massachussetts General Hospital. Their series includes 81 parathyroid adenomas and 8 cases of diffuse parathyroid hyperplasia.

The clinical findings in hyperparathyroidism may be considered as those due to bone disease, those due to anatomic or functional kidney disease, and those due to hypercalcemia.

(1) The generalized cystic change in bones is that most often recognized. The so-called cysts, as in the case to be reported, are frequently solid tumors of soft tissue producing rounded areas of bone destruction indistinguishable from cysts in the roentgenogram. The tumors are benign and consist of osteoblasts, osteoclasts, and stroma, resembling benign giant cell tumors. Other cases may show extensive demineralization of bones. Bone pain and tenderness is frequently present. Loss of stature may result from wedging of vertebrae. The jaws may be involved, and giant cell epulis has to be considered as possibly due to a parathyroid disease (vide infra).

(2) Renal disease may be due to hypercalcemia per se, with polydipsia, polyuria, low specific gravity, increased water and electrolyte excretion, or may be associated with calcification of the renal tubes (nephrocalcinosis) or renal calculi. Hypertension, nitrogen retention, and reduced renal function may be found. Since secondary hyperparathyroidism is reported in chronic renal disease, the differential diagnosis may be difficult. In the Massachusetts General Hospital series, contrary to the other reported cases, renal disease was

*From The Carpenter Memorial Clinic, Memorial Hospital.

commoner than bone disease in association with hyperparathyroidism. Albright and Reifenstein (1) report that 5% of all patients with kidney stones in Boston have underlying hyperparathyroidism as its cause.

(3) Clinical symptoms from hypercalcemia are less definite and are usually noted in retrospect. The patient notices the loss of complaints he had come to accept as the normal accompaniment of ill-health. Muscular hypotonicity, and diminished excitability of nerves explains most of the clinical symptoms. Anorexia, fatiguability, chronic constipation, visual and auditory disturbances may occur. Our patient was amazed by an immediate sense of well-being within a few days of parathyroidectomy, contrary to her previous experience with thyroidectomy.

The diagnosis of hyperparathyroidism is confirmed by blood chemical determinations. The serum calcium is elevated and the phosphorus depressed. The serum alkaline phosphatase is usually elevated, depending on the extent of bone disease present; if the bones are not involved, it may be quite normal. Under some conditions, as in the case to be reported, serum calcium and phosphorus levels may be only slightly altered. Albright and Reifenstein (1) in a series of 35 cases found 9 with serum calcium below 12 mg. and one below 11 mg. Churchill and Cope reported 2 cases of a series of 11 with relatively little change in calcium and phosphorus levels. Particularly if total serum protein is low, calcium values may be low. Mild cases of hyperparathyroidism may be diagnosed by studying the urinary calcium excretion when the patient is on a low calcium diet and NOT confined to bed, (which may cause increased calcium excretion due to bone atrophy of disuse). Such studies were not made in our case. The final proof, of course, is demonstration of the parathyroid pathology.

CASE REPORT

MRS. E. R., aged 63, Memorial Hospital No. 83644, was first seen in consultation on 12-17-47, fourteen months after the removal of a tumor of the upper jaw. The tumor, submitted with the patient, was examined microscopically and considered to be a typical benign giant-cell tumor or epulis. There was no evidence of recurrence and no treatment was recommended.

She was next seen on 6-24-49, after hospital admission because of pain in the left groin and difficulty in walking. The initial x-ray examination was reported as showing a destructive lesion in the left pubic bone with pathologic fracture, suggestive of secondary carcinoma. (Fig. 1) Review of the patient's history elicited the following facts of interest: 1. Eighteen years before, a thyroidectomy, apparently for toxic nodular goitre. 2. Tumor of upper gum two years previously. 3. Possible loss of stature. 4. An attack of violent right flank pain two years previously, consistent with passage of a renal calculus, relieved by morphine without further urologic or x-ray studies.

Further x-ray studies showed several bone lesions and also widening of the superior mediastinal shadow, which after fluoroscopy was considered a possible innominate aneurysm. The diagnosis of multiple myeloma or possible osteitis fibrosa cystica generalisata was suggested. The qualitative Sulkowich test was positive. Serum calcium was 11 mg.% and serum phosphorus 4.8%. Serum alkaline phosphatase was 21.8 Bodansky units. Blood urea was 26 mg.%. Urinalysis showed alkaline reaction, specific gravity 1.009, trace albumin, negative sugar, W.B.C. 13-20 per H.P.F. The blood count was R.B.C. 3.36, Hb 11.5 gm., W.B.C. 6,200. Aspiration biopsy of a lesion in the ilium was not conclusive. Surgical biopsy of a cystic lesion of the scapula revealed a purple-red solid mass which microscopically was consistent with von Recklinhausen's osteitis fibrosa cystica. (Fig. 3).

The patient's age, absence of severe systemic symptoms, and relatively normal calcium and phosphorus levels inclined us to withhold immediate treatment. During the ensuing three months her moderate hypertension became more severe. Repeated x-ray examinations in September, 1949 showed increase in the extent and number of bone lesions (except for healing at the site of pathologic fracture). (Fig. 2) On 9-13-49 serum calcium was 12 mg%, phosphorus 4.5 mg%, alkaline phosphatase 31.6 Bodansky units.

On readmission 10-24-49, the blood count

was R.B.C. 4.09, Hb 12 gm. W.B.C. 7,900, Polys 67%, Ly 28%, E 5% . Urinalysis: 2 plus albumin, negative sugar, 4-8 round cells, 3-4 squamous, 10-2 w.b.c. Serum calcium 11 mg.%, phosphorus 4.1 mg.%, phosphatase 18 Bodansky units. Blood urea 14, albumin 4.22, globulin 1.98, total proteins 6.2. PSP excretion was 18% in 80 minutes. Urea clearance was 39%. The blood pressure varied from 230/130 to 140/90.

While the blood chemical studies only once showed a serum calcium distinctly above normal, and never showed marked depression of serum phosphorus, the bulk of the evidence pointed to the diagnosis of hyperparathyroidism and the bone biopsy was considered confirmatory. The presence of a superior mediastinal mass on x-ray examination was confusing, since it seemed too large for a parathyroid adenoma. Since renal function was impaired, it was thought that decreased ability to excrete phosphates might explain the failure of serum calcium to rise to higher levels.

The neck was explored through the previous thyroidectomy incision on 10-28-49. Dissection at first was difficult due to scar tissue, but the absence of lateral thyroid veins made it easier. The right inferior thyroid artery had an anomolous origin between the transverse processes of the fourth and fifth cervical vertebrae, presumably from the vertebral artery. At least 5 cm. of the right inferior thyroid artery and 3 cm. of the left were exposed, and no vascular pedicle leading to the mediastinum was present, as described by Black [2] in most cases of mediastinal parathyroid adenoma. All four parathyroid glands were identified in their usual anatomic location. The right superior parathyroid was enlarged, measuring 14 x 8 x 6 mm. in size, and weighing 0.5 gm. Frozen section confirmed the presence of an adenoma and the gland was excised. The other parathyroids were from 3 to 5 mm. in diameter.

The pathologic report describes a discrete encapsulated adenoma making up almost half the bulk of the entire parathyroid gland, hence one of the smallest yet reported, judging from the size and weight of the entire specimen. According to the classification of Mallory and Castlemann [7] it is a benign acinar parathyroid adenoma. (Fig. 4).

The patient's recovery was uneventful. Immediately postoperatively the serum calcium was 11 mg.% and the serum phosphorus 4 mg.%. She was given 5 grams of calcium gluconate postoperatively and 3 grams the following day. At no time did she show signs of tetany. A paradoxical rise in calcium and fall in phosphorus, attributed to overdosage with calcium, was noted. On 11-4-49 serum calcium was 12.5 mg.% and phosphorus was 2.5 mg%. She was discharged on 11-4-49, the seventh postoperative day, feeling better than she had in several years. Further x-ray studies and blood chemistries are planned for the future.

Summary

The diagnosis of hyperparathyroidism is reviewed. A case of parathyroid adenoma in a 63 year old woman, with a past history of giant cell tumor (or epulis) of gum, osteitis fibrosa cystica and impaired renal function is reported. The blood chemical changes were not typical. The adenoma was unusually small.

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LIGATION OF THE INFERIOR VENA CAVA
A Case Report

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This case is presented to relate a sequence of events which occurred during the management of a disease which is ordinarily free of such surgical complications.

It is not implied that any measure used here should be discarded.

This case report is submitted with the hope

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that it may be of value to those who encounter a similar case.

CASE REPORT

A.S.R., a 60 year old white male was first seen as an office patient on 3-29-48 with the chief complaint of "pain in my calves." This symptom had been present for one year and had been getting worse for several months. At the time of the initial examination he would have to stop and rest after walking two blocks because of cramping pain in both calves. He had noted no postural variation in the color of the extremities or any susceptibility to extremes of weather. The patient believed that the right foot felt colder to touch than the left. He gave the history of smoking one carton of cigarettes each week.

The past history revealed that he had had C.N.S. lues several years before. After treatment, however, there was a reversal of the spinal fluid Wassermann to normal with disappearance of delusions of grandeur and other manifestations of the disease.

The physical examination revealed the following: B.P. 132/78, neurological examination negative; heart, lungs, and abdomen negative. The lower extremities were of good color and cool to touch. There was no plethora or blanching with elevation or dependency of the extremities and there was no calf tenderness. No dorsalis pedis pulsation was felt on either side, and palpation of the posterior tibial and popliteal pulses gave equivocal results. The femoral pulsations were both of good volume.

The clinical diagnosis was intermittent claudication due to arteriosclerosis obliterans. Hospitalization for study and possible surgery was recommended.

The patient was admitted to the hospital on 4-5-48. It was found that walking up and down the hospital corridor 8 times produced claudication. Paravertebral block with 2% procaine was then done on the right side and the patient was again asked to walk the corridor. After 8 trips pain occurred on the left but not on the right. Care was taken not to suggest to the patient on which side he might expect relief. The opposite side was then blocked with procaine. After this, the patient had unlimited walking distance with no pain appearing in either extremity.

Skin temperature recordings taken with the thermocouple were inconclusive and gave no objective findings to correlate with the apparently marked subjective improvement. It was, therefore, decided to test the patient with Etamon (tetra-ethyl ammonium chloride). Accordingly, on 4-8-48, 300 mg. of the drug were injected intravenously. This was felt to be a safe dose for a subject whose weight was 158 lbs. Skin temperatures were recorded every 15 minutes and again found to be equivocal. Though all went well for a while, after 50 minutes he began to have respiratory difficulty which at first seemed merely to be due to inability to cough mucus out of his trachea. This respiratory difficulty increased, so that within 10 minutes of its onset it had reached fairly alarming proportions. (It is worthy to note here that the effects of Etamon will usually be passing off by this time.). One c.c. of adrenalin 1:1000 was given hypodermically to counteract the effect of etamon. This had no beneficial effect and within a matter of seconds all respiratory efforts ceased, intense cyanosis appeared and, except for a full bounding radial pulse, the patient appeared moribund. Emergency tracheostomy was performed on the spot with very inadequate and improvised equipment.

By extreme good fortune, the staff anesthesiologist happened to pass by and, grasping the situation at a glance, brought up a gas machine and delivered oxygen under pressure through the tracheostomy.

Considerable difficulty was subsequently encountered in controlling recurrent bleeding from the crudely constructed tracheostomy wound. This, however, was soon controlled.

The emergency was terminated when the patient coughed up a long clot, after which his respiratory exchange and color immediately improved and he became fully conscious.

Though fever reached 103° (oral) on the second post-tracheostomy day, all vital signs subsided with penicillin and adjuvant measures. The tracheostomy tube was removed on 4-17-48 and the wound was closing satisfactorily when he was discharged three days later.

He was readmitted on 5-17-48 because of pain in the right lower chest, dyspnea, nonproductive cough, and low grade fever. Two

plus pitting edema of both ankles was present at that time. Bronchoscopy was negative for evidence of disease, but, immediately following bronchoscopic examination, he coughed up old dark blood after which his temperature came to normal and chest pain, dyspnea and cough disappeared.

X-rays showed changes in the right lower lobe which the roentgenologist thought was not in keeping with clinical suspicion of pulmonary embolism.

The patient was then referred to a specialist in cardiovascular diseases who, after an intensive effort to achieve amelioration of the patient's complaints, recommended that only sympathectomy offered hope of improvement.

Bilateral lumbar sympathectomy was done in stages on 7-13-48 and 7-20-48 through the now conventional extra-peritoneal approach. The patient was ambulatory on the first post-operative day after both procedures and was discharged on 7-28-48, after an apparently completely benign post-operative convalescence.

He was readmitted 8-1-48 because of pain in the left chest, cough and hemoptysis. X-ray confirmed the clinical diagnosis of pulmonary embolism.

Bilateral superficial femoral vein ligation was performed as an emergency procedure. However, the right superficial and common femoral veins contained adherent thrombus which could not be evacuated. He was, accordingly, placed on complete bed rest and anti-coagulation therapy with heparin and dicumarol. The former was discontinued when an adequate effect on the prothrombin time had been achieved.

A very profound prolongation of the prothrombin time was accomplished and after two weeks the patient was permitted out of bed. He promptly reported mild chest pain and x-ray revealed that several more pulmonary infarcts had occurred dispite highly effective depression of the prothrombin activity of the blood.

Ligation of the inferior vena cava was decided upon since there seemed no other way of controlling recurrent emboli with the high probability of sudden and fatal outcome. Accordingly, on 8-17-48, the patient was taken to the operating room after receiving a large dose of vitamin K intravenously.

The inferior vena cava was exposed through trans-peritoneal approach and ligated in continuity with two ties of umbilical tape. Following operation, he developed fever up to 103° (rectally) on the second post-operative day, which subsided satisfactorily without antibiotics. Slight ecchymosis of the scrotum and base of the penis developed, as well as moderate abdominal distention and diarrhea. All these passed off with conservative measures. Only slight edema of the dorsum of the left foot was detectable.

The patient was discharged on the 15th day after caval ligation. He was still running fever to about 99-99.2° (orally) every day but it was believed that this was due to organization and absorption of the thrombus and emboli.

About 4 weeks later he had only slight edema of the left lower leg but none on the right.

On 6-10-49, ten months after caval ligation, he stated he could walk for an unlimited distance without calf pain. He had completely discarded his elastic bandages and had no edema at all. He did, however, have mild exertional dyspnea, possibly due to fibrotic changes in the lung resulting from healing of the numerous infarcts.

Comment

Shumaker, in a thorough review of several hundred cervical and lumbar sympathectomies, emphasizes the rarity of important complications and sequellae and concludes that it is a highly satisfactory procedure with a wide margin of safety even in poor risk patients.

My comparatively small experience coincides with this conclusion completely, with the one outstanding exception of the case cited above.

Interestingly enough, Coller et al, in their report of end-results of sympathectomy for arteriosclerosis note that none of their patients achieved unlimited walking distance. The patient in this case did achieve this, the one bright feature in an otherwise trying case.

Summary

1. A case of intermittent claudication is

reported which developed an unusual reaction to Etamon.

2. Thrombo-embolic disease complicated the management and, failing to respond to anti-coagulation therapy, finally required ligation of the inferior vena cava.

3. The patient recovered and has unlimited walking distance.

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What Next?

We invite the attention of our membership to the official statement of the Democratic Party in its platform adopted at the 1948 convention: "We favor the enactment of a national health program for expanded medical research, medical education, and hospitals and clinics." We do not find in that platform any further official reference concerning Federal aid to improve national health.

A number of bills introduced into the Congress since 1948 have apparently sought by quite proper legislative procedure to implement such a program. Presumably hearings on these bills, if and when reported out of committees, will follow the usual course with opinions pro and con being afforded the opportunity to be heard.

Meanwhile, a booklet, "National Health Insurance, What It Means To You," prepared by the self-styled Committee for the Nation's Health, seems to be appearing in nation-wide distribution from some source. This brochure and questionnaire is openly favorable to the welfare state medical program, as might be surmised from its preparation by Dr. Channing Frothinham's organization, of which the executive committee, according to Mr. John O'Donnell, lists, among others, Mrs. Franklin D. Roosevelt, Chester Bowles, Mrs. Mary Keyserling, John Gunther, and Newbold Morris.[1]

The booklets "go out in envelopes which in the upper left hand corner carry the words: 'Democratic National Committee, permanent headquarters, 1200 18th Street N.W., Washington, D. C.' "[1] it would thus appear that their distribution is under-written in a manner to cause recipients of the booklets to infer at least endorsement of the contents—a program for socialized medicine—by the Democratic National Committee.

Apparently many members of the Democratic Party do not see eye to eye with the proponents of national compulsory health insurance, nor do they seem to approve of this particular action of the national committee. To quote Mr. O'Donnell again:

> The staunchly democratic Daily Advance of Lynchburg, Virginia, in an editorial entitled "What Price Democrats?," angrily observes that there are "several things that Democrats who are not Fair Dealers would like to know," and asks the questions:
>
> "By what procedure of the Democratic Party was the Democratic National Committee authorized to be the promoter of socialized medicine? How many and what members of the Democratic National Committee know about or participated in this promotion?
>
> "Is it one of the recognized and legitimate functions of such a committee of one of the two major political parties to so function? What other spurious and undemocratic procedures is the Democratic National Committee promoting in the name of the Democratic Party?
>
> "They (Democrats) should demand to know whether their national committee has tacitly prefixed 'Socialist' before Democratic National Committee and thereby secretly or semisecretly split away from the Democrat Party as real Democrats know it."

We feel that, irrespective of party affiliations, it is surely time for Americans to examine how far we have gone along the devious path toward socialism. A recent book, *The Road Ahead*, by John T. Flynn, an economist, is well worth careful study by those who would inform themselves of the background of this important subject.[2] Intelligent opinion on much of what has happened in this country and on what is to come must be founded on comprehensive study of recent history. Mere criticism of political mechanics, artful dodges, and sly maneuvers such as we have illustrated is pointless. Thinking men and women will not be materially influenced but more likely nauseated by such tactics.

We urge our membership of whatever political affiliation to do its own thinking, based on serious study of available sources of real information. It is the duty and privilege of each citizen-taxpayer to do so.

Editorial, *N. Y. St. J. M.*, April 1, 1950.

1 Daily News, February 14, 1950.

2 The Devin-Adair Company, New York City.

+ Editorials +

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Vol. 22 April, 1950 No. 4

The Mother's Milk Bank

It is hard to visualize a food shortage in Delaware, but the oldest food known to humans — mother's milk — is too frequently on the fringe of being in short supply.

Despite the persistent and commendable efforts of the ladies who conduct the important functions of the Mother's Milk Bank, the stock is normally just about sufficient for current —and urgent — needs, with little or no reserve. The Mother's Milk Bank is a service of the Junior Board of the Delaware Hospital, and its existence and inventory are of vital importance to every hospital and physician in the state, since the Bank is the only one in Delaware or this whole area.

Keeping the supply of mother's milk large enough for current requirements, with ample reserve, is the responsibility of every doctor. The mere sanctioning of the idea by members of the medical profession individually and collectively is not enough. Every mother at the time of a birth, should be reminded of the Bank and its importance stressed by the physician in attendance.

The Mother's Milk Bank Committee works hard at its laudable task and plans to publish material to hammer home the need for this activity. But the most diligent efforts of these worthy volunteers can go for naught without the active, spoken support of the physician *in every natal case.*

The mother of a new baby, particularly a first baby, is usually inundated by a diversity of suggestions from well-meaning relatives and friends regarding the care of her baby. For the most part, the suggestions run contrary one to another and the new mother becomes confused. Too often she is in the position of a person with a cold listening to suggestions about home cures. And too often the attending physician is not sufficiently insistent upon the mother nursing her new baby!

In the midst of this all-too-often confused mental state of the new mother, the Mother's Milk Bank Committee is expected to get across the story of its service and the need thereof. Unless the attending physician speaks up, plainly and emphatically, in support of the Bank, the new mother may readily forego contributing to it at the moment when she is best in a position to help the babies of less fortunate mothers.

Speak up, Doctor, and tell your patients about the Mother's Milk Bank, its function and its importance. Speak up in every case, because upon you rests the responsibility for the Bank's existence and continuance. Who can tell when your patient may be the next to need its milk?

SURVEY OF PHYSICIAN'S INCOME

Toward the end of April the AMA and the United States Department of Commerce will begin jointly the most complete and authentic survey of physicians' incomes in the history of this country. This is the first full-scaled survey of this type since 1941 and it should prove more complete and valuable. The Commerce Department points out that returns will be used for statistical purposes only, and in no way will they be made available to the Internal Revenue Bureau. The AMA is addressing the first 100,000 to every other name on its roster, which takes in members and non-members. These physicians get the short form, covering income only for 1949. An additional 10,000 get the same form, but these envelopes will bear code numbers. Code numbers also will be used on another group of 15,000 long forms, covering income from 1945 through 1949. Approximately 62½ per cent of the nation's physicians will be contacted. The code number will be used only for a follow-up letter from the AMA to be sent to those who delay returning the questionnaire. The Commerce Department does not receive these codes; its analysis will be conducted on blind, unidentified forms. The doctors of Delaware are urged to fill out and return their questionnaires accurately and promptly.

NEARING THE DANGER MARK?

With trends in this country pointing more and more towards socialism, how far do we yet have to go in these United States before we run the risk of becoming not merely a socialistic nation but a communistic nation? Here is food for thought: in 1917 Russia had but one communist in its borders for every 2,277 citizens; in 1947 the United States had one communist for every 1,814 citizens, 20% more than the number that was able to effect the Bolshevik Revolution and the installation of communism in Russia. Something to think about, isn't it? Our superior education and experience with freedom are the only bulworks between us and communism. Hold fast, America, hold fast!

ENTER "GP"

We have received Volume I, Number I, of "GP," the new journal by and for the general practitioner, edited and published by the American Academy of General Practice at Kansas City, Missouri. This first issue contains 132 pages, including cover, and carries a splendid series of articles and editorials and an amazing amount of the better class advertising for a brand new journal. We wish "GP" every success in the world, and if their first issue is any criterion of what is to follow, it will have a very successful career.

PAPERS! PAPERS! PAPERS!

The time has now come for the doctors of Delaware who wish to present papers at the next annual session of the Medical Society of Delaware, to be held at Dover, October 2-4, 1950, to make the fact known to the Executive Secretary. The program should contain five or six worthwhile papers by Delaware doctors, and those who wish to be on the program should send at least the title of the paper to this office, *promptly*.

We have learned that you cannot put a patient's mind in a cast. The tuberculosis experience is an interesting example of this. The great problem of the tuberculosis sanatorium is people leaving against medical advice. We have been foolish enough to expect patients to rest idly in bed and not to worry, but worries about families, jobs or money, go round and round in their heads until they decide to give up treatment and go home. Howard A. Rusk, M.D., Nat. Foundation for Infantile Paralysis.

• • •

City-wide X-ray surveys can be conducted with relative economy of means and money. Previous experience in cities already surveyed and preliminary studies of other communities indicate that if present facilities are fully utilized and if newly discovered cases are given realistic disposition, the increased case load of tuberculosis will not present a grave problem to the community. Francis J. Weber, M.D., Ohio Pub. Health, Feb., 1948.

WOMAN'S AUXILIARY
New Castle County Medical Society

The Executive Board would like to take this opportunity to contact all members of the New Castle Auxiliary and especially to welcome all new members.

As we formulated our program for the year we have tried to keep in mind the five purposes of the Auxiliary which are:

1. To extend the aims of the medical profession to all organizations which look to the advancement of health and health education;

2. To cultivate friendly relations and mutual understanding among physicians' families;

3. To participate in any endeavor on the request of the American Medical Association and of its constituent Medical Society of Delaware;

4. To coordinate and advise concerning the activities of constituent auxiliaries;

5. To assist in the entertainment at all conventions of the American Medical Association.

We also thought that you might be interested in knowing all of our county officers and committee chairmen:

President ..... Mrs. R. B. Thomas
Vice-President .... Mrs. H. T. McGuire
Secretary ..... Mrs. John Alden, Jr.
Treasurer ..... Mrs. H. H. Stroud
Public Relations .. Mrs. Lemuel McGee
Sewing ..... Mrs. L. J. Rigney
Legislation ..... Mrs. W. E. Bird
Hospitality ..... Mrs. I. Charamella
Membership ..... Mrs. Millard Squires
Program ..... Mrs. J. R. Durham, Jr.
Revisions ..... Mrs. C. E. Wagner
Finance ..... Mrs. John H. Mullin
Press and Publicity, Mrs. Mark Holzman
"Today's Health", Mrs. John Barnhart
Ways and Means .. Mrs. H. T. McGuire

To bring our program up to date mention should be made of the successful Christmas Party and Bridge Luncheon given in December and January. The Christmas Party was held in the Academy for the children of the Auxiliary members, and was planned by Mrs. I. Charamella and her committee. The Bridge-Luncheon held in the DuBarry Room was a Ways and Means project under the leadership of Mrs. H. T. McGuire. From now until June we have a calendar of events that we hope will appeal to all of our members.

Public Relations Program - May 3rd
2 P. M.

A most important Public Relations Program is being worked out by Mrs. Lemuel McGee and her committee. It will be in the form of a discussion and tea to be held in the Academy of Medicine. Dr. A. R. Shands will discuss the Aspects of Socialized Medicine. Invitations are being sent to all organized women's groups. *All members are urged to attend this most important meeting.*

Another Public Relations project under the direction of Mrs. Roger Murray, state chairman of Public Relations, is worthy of our support. Every Wednesday at the Academy between 10 A. M. and 4 P. M., she and her committee are making surgical dressings for the American Cancer Society. All who can spend some time on Wednesday doing this are needed.

Ways and Means - April 19th - 1 P. M.

Mrs. H. T. McGuire is planning a small benefit bridge to be held at the Academy. The reservation chairman will be announced later; however the cost will be $1.00 per person. There will be table and door prizes.

Sewing Meetings - 3rd Tuesday of Month
8:15 P. M.

If attention is paid to the date it can be seen that this is also the night that the doctors have their county society meetings, so it makes an ideal time for the auxiliary members to meet at each other's homes to put the finishing touches on baby garments used by the Visiting Nurse Association. Mrs. L. J. Rigney announces that to date 64 garments have been finished this year. The next meeting will be on April 21st at the home of Mrs. R. B. Thomas, 8 Vining Lane, Westhaven. All members are invited, and Mrs. Rigney assures us that sewing skill is not needed.

3rd Annual Dinner Dance

We hope that you are already planning to attend the Third Annual Dinner Dance in May. Mrs. Junius A. Giles, Jr., is Chairman.

This affair is not a Ways and Means project but just our social highlight of the year. This should be a gala night for the doctors, their wives, and their friends.

The Executive Board would also like to salute the State Ways and Means Chairman, Mrs. Jos. Davalos and her committee for the wonderful work they did in their sponsorship of the Drama League play. It was a huge success. The proceeds from this play will be used for the Nurses Scholarship Fund.

Our projected Book Machine is proving very useful. Mrs. Richard Allen reports that it has traveled to all of the city hospitals and that the patients that use it are so very grateful. She would like some volunteers to assist with its operation. For this job a car is needed, and if any members are interested in this endeavor call Mrs. Allen 4-9969.

We of the Executive Board hope that this letter has given all auxiliary members a better understanding of the work that is being done, and that some phase of our program will interest each one. All committees are open and all committees need YOU. Your cooperation is solicited.

Sincerely,

The Executive Board.

P. S. Try to secure a copy of the Delaware State Medical Journal — January 1950 — Vol. 22. In the back is a roster of the members of the Delaware Medical Society. An asterisk (*) after their name indicates that the wife is a member of the Auxiliary. Save this volume and you will have an almost complete membership list.

TOWARD EFFECTIVE CANCER CONTROL

CHARLES S. CAMERON, M. D., *
New York, N. Y.

Nowhere in the world do voluntary health agencies flourish in such abundance as they do in the United States. They are an expression of the charitableness of our people toward those less fortunate, and they are testimony to the democratic spirit of Americans in organizing and working cooperatively for the common good.

The American Cancer Society, a venerable member of the family of health agencies, should be thoroughly known to all doctors, for its services are many. Through its national office in New York, its 61 chartered divisions and 2,613 county branches, it conducts a broad-based year-round effort to control cancer, one of the foremost medical problems confronting us.

The control of cancer eventually will come through an understanding of cancer's causes, means of prevention and effective treatment methods; this knowledge waits on research. The Society has recognized the importance of intensified investigative efforts in the field of growth and spends 25 per cent of its income in the support of such studies and in the training of young scientists to carry them forward. During the present year this support amounts to $3,500,000. The total research expenditure for the past five years is $13,153,560.

A substantial measure of control over cancer can be achieved today with the knowledge already at hand. The disparity between cancer's *curability* and the cures being achieved is striking. For example, cancer of the breast is curable in 80 per cent of patients who are treated when the disease is confined to the breast; yet the country-wide cure rate is less than 35 per cent. When cancer of the rectum is confined to the mucosa cure rates of 70 per cent have been reported; yet the overall rate of cure is about 11 per cent. Similar differences hold for most forms of the disease. In order to achieve a larger measure of cures the American Cancer Society engages in an intensive educational and publicity campaign, based on knowledge of cancer's early signs and symptoms (the danger signals), and the value of periodic physical examinations.

April is the month when the American Cancer Society makes its annual appeal to the public for support of its programs. As more and more of our people live longer, the incidence of cancer increases. As the problem becomes more widespread, so must the effort to control the disease be intensified. The Society is dedicated to the principle that through education an effective measure of cancer control may be achieved at this time.

Improved services to patients with cancer

*Medical and Scientific Director, American Cancer Society.

are provided by support of cancer clinics, organized programs of cancer detection and information services; these efforts are augmented by a corps of volunteers who provide loan closets, transportation services, recreational activities and dressings.

Of immediate interest to doctors is the professional education program. During the past year three monographs of a series dealing with cancer by anatomic site have been distributed to practicing physicians throughout the country. The series will be continued this year, with distribution at three-month intervals.

The professional journal CANCER, which first appeared in May, 1948, has been well received by clinicians and investigators interested in the problems of abnormal growth. A series of motion pictures for professional audiences, treating the problems of early diagnosis of cancer by anatomic site, has been outlined. Two of the films have been released, the first concerned with the general problem of the early diagnosis of cancer and the second concerned specifically with the early diagnosis of cancer of the breast. A third, covering cancer of the gastro-intestinal tract, is in preparation and will be released this year.

A new publication of the Society will appear this year, and will be distributed bimonthly to practicing physicians throughout the country. Topics of interest to the general practitioner will be presented in digest form, together with brief abstracts of significant papers appearing in the literature. Clarity, brevity and general interest will be stressed. It is the Society's hope that this digest will be accepted by the busy physician for whom it is planned.

The library of the Society publishes monthly a bibliography of the current cancer literature which is available on request to physicians, research workers, and libraries. The library will prepare, on request, bibliographies on any topic related to the field of cancer. A package lending library has been established which will supply reprints, on a loan basis, to any physician or investigator requesting the service.

Tuberculosis mortality in the U. S. Zone of Germany began to rise promptly at the beginning of World War II, reached a peak in 1945 and has progressively declined in 1946 and 1947. The extent of the rise was only moderate as compared with that in several other European nations. Philip Sartwell, M.D., Charles H. Moseley, M.D. and Esmond R. Long, M.D., Am. Rev. Tubere., May, 1949.

* * *

BCG vaccine has joined the conventional forms of tuberculosis control in Alaska. With a tuberculosis mortality rate nine times that of the United States, the last outpost of America is mustering every known weapon in its fight against tuberculosis. Elaine Schwinge, M.D., Nat. Tubere. A. Bull., May, 1949.

BOOK REVIEWS

Diseases of the Heart. By Charles K. Friedberg, M.D., Associate Physician, Mount Sinai Hospital, New York. Pp. 1081, with 79 illustrations. Cloth. Price $11.50. W. B. Saunders Company, Philadelphia.

This textbook of "Diseases of the Heart" is well written, authoritative, and complete, written mainly from the standpoint of pathological physiology. Its use as a reference work is enhanced by a complete bibliography and index.

Your reviewer has one major and several minor criticisms, all of which are offered in a constructive spirit.

The main fault of the book is the relatively few illustrations. Furthermore, several of these are of poor quality in regard to both content and technique. It is hoped that the author and publisher will concentrate on more abundant illustrations of better quality in the next edition.

The minor points with which your reviewer takes exception will be listed for the sake of brevity:

1. The discussions of therapy are rather sketchy in places. The treatment of auricular flutter — both under "digitalis" on page 177, and again under "tachycardias" on page 271 — leaves much to be desired in a work of this magnitude. The discussion of the use of digitalis in the treatment of thyrotoxicosis with

auricular fibrillation and cardiac decompensation, on page 925, also is too superficial. On the other hand, the discussions of "rest," appearing on pages 161 and 483, are both masterfully written. The author should attempt to bring his other discussions up to the level of clarity, completeness, and common sense attained in these passages.

2. Bilateral eyeball pressure, as recommended on page 265, is not universally accepted as being without danger.

3. Your reviewer feels that the indications for pericardial aspiration (page 514) are too broad, and that this potentially dangerous procedure should be limited to (1) relief of cardiac tamponade and (2) diagnosis only if purulent effusion is suspected. In the latter case, a thoracic surgeon should be on hand to effect proper treatment (surgical drainage) should pus be found.

4. Venous hum should be included in the differential diagnosis of the aortic diastolic murmur on page 589. The statement that a co-existing systolic murmur makes syphilitic etiology more likely is too dogmatic. Furthermore, the term, "sea-gull murmur," is too general to be associated only with one specific diagnosis such as rupture of the aortic valve.

5. It would be better to discuss "funnel chest" under "functional manifestations" rather than under "corpulmonale," as it has no definite relationship to the latter condition.

Your reviewer thinks it remarkable that a critical evaluation of a 1081 page book resulted in so few adverse findings.

This book is without doubt the best text on the subject in the English language. It certainly will live through many successful editions and should be in the possession of every physician who ever sees a patient with heart disease.

Electrocardiography: Fundamentals and Clinical Application. By Louis Wolff, M.D., Visiting Physician, Consultant in Cardiology and Chief of the Electrocardiographic Laboratory, Beth Israel Hospital; Associate in Medicine, Harvard Medical School. Pp. 187, with 110 illustrations. Cloth. Price $4.00. Philadelphia: W. B. Saunders Company.

Although no new material appears in this book the author has succeeded in presenting a most difficult and confusing subject in a simple and understandable manner. It is unfortunate that he has entirely omitted a discussion of the cardiac arrhythmias. Because of this, the book cannot be recommended as a textbook of electrocardiography, but it should be read by every physician interested.

Orthopedic Nursing. By Hunston and Calderwood. Second edition. Pp. 628, with 208 illustrations. Cloth. Price $4.25. St. Louis; C. V. Mosby Company.

This is a complete volume on general orthopedic nursing, which is greatly needed today in every general hospital. A comprehensive outline of the various orthopedic principles and procedures is given to acquaint the nurse with her responsibility in the handling of patients. It is properly emphasized that judicious nursing care can prevent many discomforts and complications in a patient who must be in bed for prolonged periods of time.

All types of traction, fractures, and dislocations and their nursing care are well described.

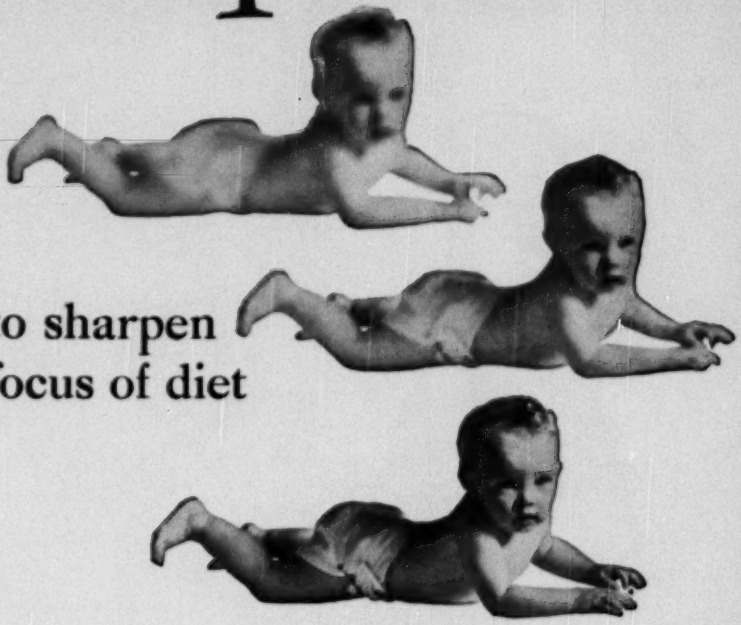
Poliomyelitis is discussed in detail in two chapters. Many statements are made in Chapter XXXV which need revision in the light of present-day knowledge. Disapproval is expressed of the Kenny method of treatment for muscle spasm and muscle pain, yet no substitute is offered for these nor for the elimination of contractures and deformities, though many surgical procedures are described for their correction.

Chapter XXXVI, on the nursing care of poliomyelitis, is quite complete and well done. It emphasizes the necessity of careful isolation of the patient because of the dangers of "person to person contact plays a large part in the spread of the disease." The Kenny hot pack technique is discussed in detail. An excellent discussion on the nursing care of the polio patient in the respirator, with tracheotomy, and in braces, is outlined.

Muscle relaxing drugs as prostigmine and curare are mentioned briefly. The use of curare is discouraged without giving any justifiable reasons.

In general this is a good reference book for nurses.

Flexible Formula



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*T. M. Reg. U. S. Pat. Off.

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